



CDF Operations Report

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All Experimenters' Meeting



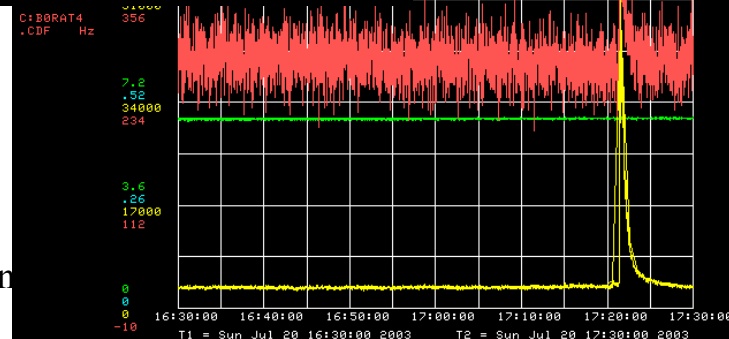
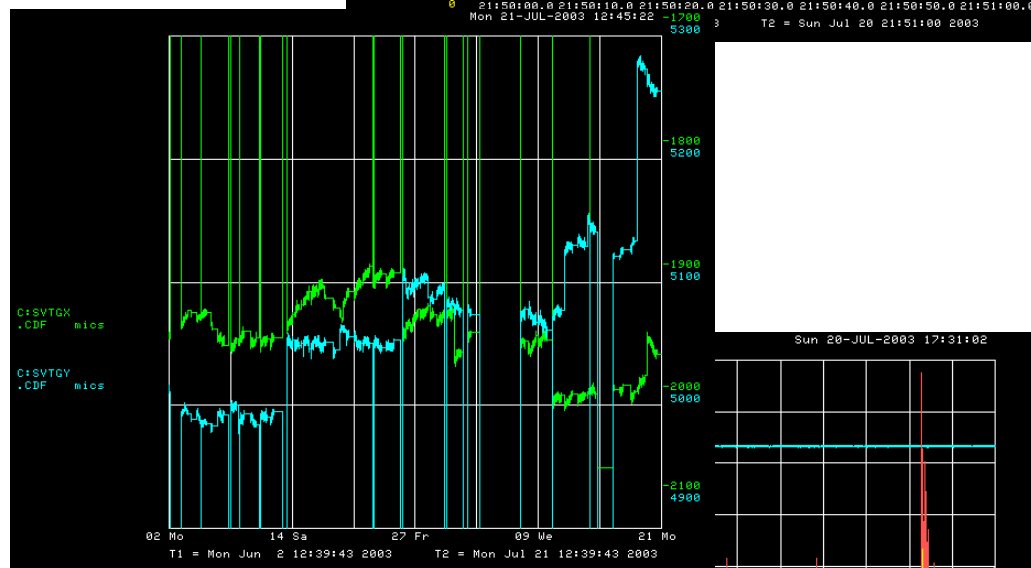
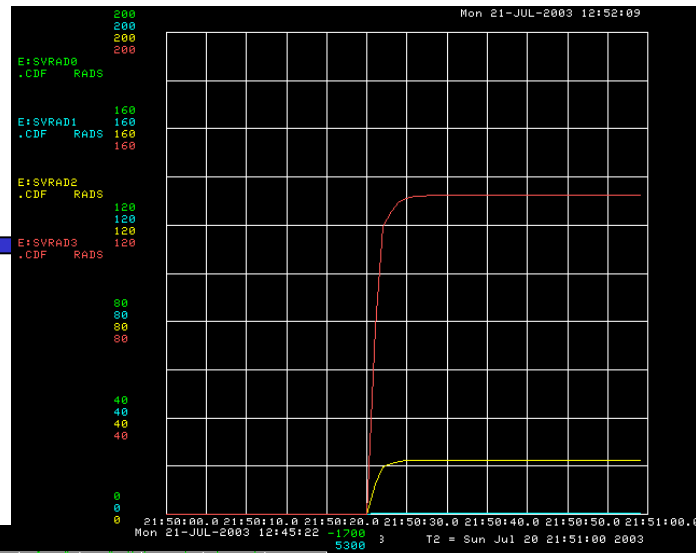
This Week's Stores

Date	Store	Inst Lum (initial)	Int Lum (delivered)	Lum to tape (ϵ)	Physics Lum (ϵ)
Mo 7/14	2786	32.4e30	1292	1201 (93%)	1201 (93%)
We 7/16	2792	32.2e30	120	100 (83%)	100 (83%)
Th 7/17	2795	23.9e30	522	409 (78%)	204 (39%)
Fr 7/18	2800	32.3e30	708	572 (81%)	565 (80%)
Sa 7/19	2801	26.9e30	1098	941 (86%)	859 (78%)
Su 7/20	2803	31.9e30	1362	1248 (92%)	1248 (92%)
Su 7/20	2805	9.3e30	37	24 (64%)	0 (0%)
Total			5.10 pb ⁻¹	4.50 pb ⁻¹ (88.2%)	4.18 pb ⁻¹ (82.0%)



Beam Status

- (1) Silicon radiation trip
 - Sunday evening while shot setup
 - >100 rad in ~5 seconds
 - F17 TeV kicker was off
 - No damage to silicon
- (2) Beamline movement (2803)
 - moved by +150 μm in y
 - +300 μm past two month
 - ~5.7 mm off from detector center
 - Two major problems
 - Asymmetric radiation damage to Si
 - Innermost Si layer: 1.5 cm
 - Inefficiency for online tracking
- (3) Proton loss spike in abort gap
 - happens ~1 per week
 - If TEL is off, it can cause serious damage to Si detector





CDF Operations

- CMU trigger problem (Store 2795)
 - Hot trigger channels in L1 muon trigger system
 - Muon trigger was >10 higher rate than usual: High DAQ deadtime
 - We masked off some triggers: Bad for physics analysis
 - While debugging the problem, we used beam time for trigger testing
- Controlled access: Tuesday
 - Shadow access for D0 CAL access
 - Recover one Silicon wedge
 - Investigate forward muon dead channel
- Progresses on DAQ improvement
 - Silicon readout time improvement
 - We readout all silicon (SVX, ISL, L00) every Level 1 accept ($\sim 15\text{kHz}$)
 - Only SVX is used for L2 trigger decision
 - ISL and L00 after L2A ($\sim 300\text{ Hz}$)
 - Improve L1 trigger band width
 - Level 2 muon trigger commissioning
 - Last piece of CDF trigger system which hasn't yet implemented
 - Without L2 muon system, some muon triggers can be prescaled if luminosity $> 5e30$



Summary/Plan

- Plenty of quiet time, downtime
 - Took millions of astrophysics data
 - Progresses in DAQ upgrade
 - Silicon detector readout
 - Level 2 muon trigger
- Data taking efficiency 88%
 - Good for physics: 82%
 - We want >90%
 - Reduce down time
 - Optimize number of tests
 - Reduce DAQ deadtime

